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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<table>
<tr>
<td rowspan="2">Office Action Summary</td>
<td>Application No.
10/550,203</td>
<td>Applicant(s)
TATESON ET AL.</td>
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<tr>
<td>Examiner
JAMES HWA</td>
<td>Art Unit
2163</td>
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</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 December 2008</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-23,25,26 and 30-44</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-23,25,26 and 30-44</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some *   c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Applicant has amended claim 13 in the amendment filed on 12/03/2008. New

claims 36-44 added. Claims 1-23, 25-26 and 30-44 are pending in this Office Action.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-23, 25-26 and 30-44 have been

considered but are moot in view of the new ground(s) of rejection.

Applicant argued that, the three-way combination fails to teach or suggest

"receiving user inputs made during a browsing session, and amending score values for

attribute data items associated with the display items as the browsing session

continues" as required by independent claim 1 and its dependents. Similar comments

apply to independent claims 9 and 26. The Examiner respectfully disagrees.

In response to applicant's argument, Wang teaches login process, performed by

ISP server, receives and responds to the login scenario to establish a session on ISP

server for the user of audio device (page 6, paragraph 0052). Guidance defined during

the edit session will define what and how information will be presented in derivative

content. Derivative content is derived from primary content by application of guidance

defined during an edit session (page 26, paragraph 0159).

During a transfer of control, one or more of these access devices or user

interfaces may have exclusive control of the session, or may have nonexclusive control.

Output may be provided exclusively to the interface being used in an exclusive manner,

or may be provided as indicated by the user on two or more interfaces (page 33,

paragraph 0195).

Also, Adar teaches it operates in a similar manner to traditional keyword-based search engines, in that a search begins by the user's entry of one or more search terms used in a pattern-matching analysis of documents on the Web. It differs from traditional keyword-based search engines, in that search results are ranked based on a metric of page Importance, which differs from the number of occurrences of the desired search terms. Google's metric of importance is based upon two primary factors: the number of pages that link to a page, and the number of pages that the retrieved page links to. A page's inlinks and outlinks are weighted, based on the Google determined importance of the linked pages, resulting in an importance score for each retrieved page. The search results are presented in order of decreasing score, with the most important pages presented first. It should be noted that Google's page importance metric is based on the pattern of links on the Web as a whole, and is not limited to the preferences of a single user or group of users (column 3, lines 5-28). The ranked results are finally returned to be viewed by the user. The results retrieved from the public bookmark collection can be presented separately from the Internet results, or they can be incorporated into the same list (most likely with higher scores, because of influence from the popularity metric) (column 16, lines 54-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Kramer, Wang and Adar before him/her, to modify Kramer receiving user inputs and display items during a browsing session because that would allow for frequent changes in the arrangement of content on web pages provided by the Internet as taught by Wang (abstract).

Applicant argued that, "wherein the reward accrued by attribute data items due to association with non-selected display items is negative where the selected display item reward is positive, and positive where the selected display item reward is negative" in claim 19. The Examiner respectfully disagrees.

In response to applicant's argument, Adar teaches relevance feedback allows the user to select whether the desired documents are those similar to the selected context or dissimilar to the selected context. A known example of positive relevance feedback is the More Like This option provided by the Excite search engine (column 14, lines 18-36). If the user selected positive relevance feedback (i.e., documents like these); the closest context matches in the previously-keyword-matched public bookmark collection are returned as the highest-ranking. If the user selected negative relevance feedback (i.e., documents unlike these), the closest context matches in the collection are given the lowest rankings. The recommendation list is then returned to the user for viewing (column 15, lines 23-31). If positive relevance feedback has been selected, the query is augmented by adding the additional context words as words that should be found in the results; if negative feedback has been feedback has been selected, the query is augmented by adding the additional context words as words that should not be found in the results (e.g. non-selected) (column 15, lines 23-31).

Applicant argued that claims 26, 32 and 35 regarding rejected under 35 U.S.C.101, because instant Specification provided evidence that applicant intends the "medium" to include paper. Consequently, the rejection to claims 26, 32, 35, 38, 39, 41 and 44 under U.S.C.101 is maintains.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of the title.

4.   Claims 25, 26, 32, 35, 38, 39, 41, and 44 are rejected under 35 U.S.C.101 because the language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practice application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C 101.

As regarding claims 26, 32, 35, 38, 41 and 44 fail to place the invention squarely within one statutory class of invention. On page 7, line 28, page 10, line 36, page 11, line 7 and page 20, line 28 of the instant specification, applicant has provided evidence that applicant intends the "medium" to include paper. As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

Claim 39 is rejected under 35 U.S.C. 101 because claim 39 contains no hardware. Thus, the claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be

a composition of matter. As such, they fail to fall within a statutory category. They are, at

best, functional descriptive material *per se*.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. l 12:

The specification shall contain a written description of the invention, and of the manner and process of
making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art
to which it pertains, or with which it is most nearly connected, to make and use the same and shall set
forth the best mode contemplated by the inventor of carrying out his invention.

5.   Claims 33-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention.

The claims 33-35 contain new matter. In particular, the claimed limitation "the

sum of all score values remains the same value even after the score values are

amended in response to the user inputs" is not disclosed in the original specification.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness
rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
in section 102 of this title, if the differences between the subject matter sought to be patented and the
prior art are such that the subject matter as a whole would have been obvious at the time the invention
was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability
shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the

various claims was commonly owned at the time any inventions covered therein were

made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

7.   Claims 1-15, 17-23, 25 26, 30-32, 36-39 and 42-44 are rejected under 35

U.S.C. 103(a) as being unpatentable over Kramer et al. (US Patent No. 6,327,574 B1,

hereinafter "Kramer") in view of Wang et al. (US Patent Application No. 2002/0174147

A1, hereinafter "Wang") and Adar et al. (US Patent No. 6,493,702 B1, hereinafter

"Adar").

As to claim 1, Kramer teaches the claimed limitations:

"Apparatus for selecting items from a product database" as a system, method,

architecture and various software products that can augment structured documents that

are received and reviewed online by a consumer using historical behavioral information

(column 2, lines 38-41).

"a display database for storing a set of display items, data-storage means for

storing attribute data items each associated with one or more of the display items" as

the variable content sections are tagged with variables or expressions, which are

evaluated in the context of a client database to produce a description of the actual

content to display in that section (column 7, lines 60-63).

These selectable content tags will include information which is evaluated with respect to the individual consumer's profile to produce a set of options for which content to present together, with criteria for determining a measure of appropriateness of each option depending on the attributes of an individual viewer (column 8, lines 25-31).

"data-storage means for storing a score value for each attribute data item" as the Illumination Sorter selects and sorts a set of illuminations by measuring each against the data sources, using the matching subsystem to compute a match score for each illumination. Illuminations whose match score is above a threshold associated with each illumination are selected; the selected illuminations are ordered by their match score to form the sorted illumination list (column 23, lines 15-22).

"means for displaying a subset of the display items selected from the display database" as for each variable content section, selecting a subset of the content alternatives for augmenting the section by evaluating the content alternatives with respect to a consumer profile of the consumer, ordering the subset of content alternatives into an order (claim 1; see also figures 3B, 4 and 5).

Display methods in an illumination process, which augments structured documents being electronically delivered to the consumer with the conditional content, allow for the consumer to view the most appropriate piece of content first, followed by the next most appropriate piece of content if the consumer so indicates, and so forth (column 3, lines 1-7).

"means for amending the score values in response to the user inputs; means for retrieving, from the data-storage means, attribute data items associated with any display

item means for retrieving from the display database" as a detailed model of the

consumer is built using mathematical functions that map from the specific transactions

of the consumer to estimates of the relevancy of certain attributes to the consumer.

These models can be used to order a number of pieces of conditional content with

respect to how well they match the attributes of the consumer, and hence how well they

may appeal to the consumer's interests, preferences, psychographics, or demographics.

Display methods in an illumination process, which augments structured documents

being electronically delivered to the consumer with the conditional content, allow for the

consumer to view the most appropriate piece of content first, followed by the next most

appropriate piece of content if the consumer so indicates, and so forth (column 2, line

56 to column 3, line 9).

The Illumination Sorter sorts the selected illuminations in an order determined via

a match score computed from the three data sources. The sorted illuminations are then

presented to an Illumination Display subsystem for presentation to the consumer

(column 21, lines 56-61). The final match score is computed by the Metric Matching as

a combination (e.g. weighted sum or product) of the priority resulting from the Boolean

query, and the distance metric from the target vector to the consumers attribute vector

(column 24, lines 25-29).

"one or more further display items selected in accordance with the score values

associated with attribute data items" as the Illumination Sorter includes a Boolean

Matching and Metric Matching. The Boolean Matching evaluates the Boolean query

used to select all illuminations that do meet the query constraints with respect to the

facts in the database or abstracted data from the attribute vector via the Boolean

Abstractor (column 23, lines 41-46). These illuminations will be processed by the

Illumination Sorter to determine which categories are most relevant to the consumer.

The most relevant illumination will be displayed initially in the illuminated document, with

the selected ones of the remaining illumination candidates available to the consumer via

the content rotator, and ordered by their relevancy (e.g. match scores) (column 32, lines

45-56).

"output means for displaying an output identifying the selected further display

item or items" as all illuminations for which the Boolean query evaluates to TRUE are

selected from the set of illuminations. The meaning of this result is that such

illuminations do match facts or data descriptive of the transactions, interests,

preferences, or demographics of the consumer whose computer will potentially be

selected for display (column 23, lines 48-53).

The merchant chooses to make use of the hierarchical structure of the attribute

vector to effect a hierarchical discrimination of its content. The first illumination

candidates transmitted to the consumer's computer. These illuminations will be

processed by the Illumination Sorter to determine which categories are most relevant to

the consumer. The most relevant illumination will be displayed initially in the illuminated

document, with the selected ones of the remaining illumination candidates available to

the consumer via the content rotator, and ordered by their relevancy (e.g. match scores)

(column 32, lines 45-57).

The merchant is now aware of the consumer's interest in children's books, but still does not know which sub-category of children is appropriate. Thus, the second set of candidate illuminations is directed to specific sub-categories within the children category (column 33, lines 4-9).

Kramer does not explicitly teach the claimed limitation "means for receiving user inputs made during a browsing session" and "output means for displaying an output identifying the selected further display item or items during said browsing session".

Wang teaches login process, performed by ISP server, receives and responds to the login scenario to establish a session on ISP server for the user of audio device (page 6, paragraph 0052). Guidance defined during the edit session will define what and how information will be presented in derivative content. Derivative content is derived from primary content (e.g., for which the model page is a prototype) by application of guidance defined during an edit session (page 26, paragraph 0159).

A user may begin a session accessing the Internet via a wireless device and a limited display device user interface, indicate to the browse process that the session is to continue in audio, and possibly indicate to the audio user interface (e.g., voice browser) that the session is to resume on the limited display device. In an alternate implementation, session switching may include control from time to time by a workstation GUI (page 33, paragraph 0194). During a transfer of control, one or more of these access devices or user interfaces may have exclusive control of the session, or may have nonexclusive control. Output may be provided exclusively to the interface being used in an exclusive manner, or may be provided as indicated by the user on two

or more interfaces (page 33, paragraph 0195). A weighted sum of the extents of

matches found may be compared to a threshold numeric value. When the weighted sum

exceeds the value, for example, sufficient correlation may be concluded. Probabilities

derived from a model are combined in any conventional manner to conclude sufficiency.

For example, if matches are found in portions associated with a low probability of

change or mismatches are associated mostly with portions that have a high probability

of change, sufficient correlation may be concluded (page 14, paragraph 0127).

Kramer does not explicitly teach the claimed limitation "means for amending the

score values in response to the user inputs as said browsing session continues".

Adar teaches it operates in a similar manner to traditional keyword-based search

engines, in that a search begins by the user's entry of one or more search terms used in

a pattern-matching analysis of documents on the Web. It differs from traditional

keyword-based search engines, in that search results are ranked based on a metric of

page Importance, which differs from the number of occurrences of the desired search

terms. Google's metric of importance is based upon two primary factors: the number of

pages that link to a page, and the number of pages that the retrieved page links to. A

page's inlinks and outlinks are weighted, based on the Google determined importance

of the linked pages, resulting in an importance score for each retrieved page. The

search results are presented in order of decreasing score, with the most important

pages presented first. It should be noted that Google's page importance metric is based

on the pattern of links on the Web as a whole, and is not limited to the preferences of a

single user or group of users (column 3, lines 5-28). The ranked results are finally

returned to be viewed by the user. The results retrieved from the public bookmark collection can be presented separately from the Internet results, or they can be incorporated into the same list (most likely with higher scores, because of influence from the popularity metric) (column 16, lines 54-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Kramer, Wang and Adar before him/her, to modify Kramer receiving user inputs and display items during a browsing session because that would allow for frequent changes in the arrangement of content on web pages provided by the Internet as taught by Wang (abstract).

As to claim 9, the limitation therein has substantially the same scope as claim 1. Claim 9 is introduce the limitations of a system, method, architecture and various software products that can augment structured documents that are received and reviewed online by a consumer using historical behavioral information (column 2, lines 38-41). Therefore claim 9 is rejected for at least the same reasons as claim 1.

As to claim 26, the limitation therein has substantially the same scope as claim 1. Claim 26 is introduce the limitations of a local access device with local memory, computing capability, persistent storage, a display, and a network connection (column 5, lines 5-7). Therefore claim 26 rejected for at least the same reasons as claim 1.

As to claim 2, Kramer teaches the claimed limitations:

"input means for receiving a user input identifying a first display item selected from the displayed subset, and wherein the score values for each attribute data item can be altered as said browsing session continues in response to such user interaction" as all of the foregoing testing of illuminations and generation of match scores occurs entirely under the control of the consumer's computer, and thus without the providers of the illuminations having any access to the highly sensitive and private information about the consumer that is contained in the database(column 23, lines 23-28).

each clement in the attribute vector represents a consumer preference, interest, psychographic, demographic aspect, or alternatively, the probability the consumer is interested in a specific topic, category, and the like. These attributes are updated as a function of a measure of relevancy of a transaction to each attribute (column 24, lines 41-46).

Kramer does not explicitly teach the claimed limitation "the score values for each attribute data item can be altered as said browsing session continues in response to such user interaction".

Wang teaches at a time after the session is established, voice browse process, performed by voice browser server, requests information expected to be provided by a server on network. Compute a score for each candidate and choose the PC node identifier having the lowest score (page 11, paragraph 0096).

A search may seek entries in accordance with one or more target attribute values (page 13, paragraph 0119). A weighted sum of the extents of matches found may be compared to a threshold numeric value, when the weighted sum exceeds the value, for

example, sufficient correlation may be concluded. In another implementation,

probabilities derived from a model are combined in any conventional manner to

conclude sufficiency. For example, if matches are found in portions associated with a

low probability of change or mismatches are associated mostly with portions that have a

high probability of change, sufficient correlation may be concluded (page 14, paragraph

0127).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made, having the teachings of Kramer, Wang and Adar before

him/her, to modify Kramer browsing session continues in response to such user

interaction because that would allow for frequent changes in the arrangement of content

on web pages provided by the Internet as taught by Wang (abstract).

As to claim 3, Kramer teaches the claimed limitations:

"the means for retrieval operate on the basis of assigning an aggregate score to

each display item based on the current score values of attribute data items associated

with that display item" as the consumer profile update process analyzes each newly

interpreted transaction, in particular, product or merchant profile, time of transaction and

transaction amount to produce a refined profile. Typically, this process will depend on

more than the current profile and the new transaction. It will probably also require the

maintenance of aggregates and other summary data about the profile and transaction

histories over various time intervals (column 11, lines 43-49).

As to claim 4, Kramer teaches the claimed limitations:

"the means for retrieval comprises means for generating a probabilistic function, such that the current aggregate score of a display item determines the probability of its selection" as in general, the greater the correlation between a consumer profile and a product profile at a given time, the greater will be the expected appeal of the product to the consumer. An appeal function is a procedure that computes the appeal of a given product to a given consumer as a function of the consumer and product profiles. For example, an appeal function may be based on a generalized inner product of the consumer and appeal profile, e.g. a weighted sum of the results of multiplying each corresponding pair of characteristic values (column 11, lines 12-20).

The consumer attributes are updated by the relevancy of individual transactions. Relative relevancy of transactions and the probabilities of transactions occurring or not occurring may also be used to update the attributes (column 3, lines 34-37).

As to claims 5 and 17

Although Kramer teaches when presenting a form to a user, TIC can treat it as a template in which the input fields of the form are treated as expressions which evaluate to the corresponding user data (column 9, lines 28-31). The consumer attributes may be defined in a hierarchical model, with aggregated attributes having values derived from lower level attributes (column 3, lines 22-25). The characteristic values for an object will be represented as a vector of real numbers where each value measures the degree to which the corresponding characteristic applies to the consumer or product (column 11, lines 1-4).

Kramer does not explicitly teach the claimed limitation "wherein provision is made for users to input both positive and negative reward values".

Adar teaches if the user selected positive relevance feedback (i.e., documents like these); the closest context matches in the previously-keyword-matched public bookmark collection are returned as the highest-ranking. If the user selected negative relevance feedback (i.e., documents unlike these), the closest context matches in the collection are given the lowest rankings. The recommendation list is then returned to the user for viewing (column 15, lines 23-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Kramer, Wang and Adar before him/her, to modify Kramer input positive and negative reward values because that would to be able to incorporate community-based recommendations into a system that is capable of retrieving previously unknown documents from the Internet as taught by Adar (column 4, lines 10-15).

As to claim 6, Kramer teaches the claimed limitations:

"the data storage means comprises means for storing real value weights associating attribute data items with display items" as the consumer and viewer models are represented as weight vectors over component attributes while the consumer profile depends on all observations and transaction reports (column 15, lines 10-14).

When the aggregated attributes from the attribute vector are involved; the

aggregated value is a weighted and normalized sum of a number of attribute values

(column 28, lines 61-63).

As to claims 7 and 20, Kramer teaches the claimed limitations:

"The display includes non-visual elements" as the page illuminator operates on a

parsed page. It generates a list of the illumination forms, i.e. the forms with XML tags

specifying TIC illumination. It then passes that list to the selection engine, which is

inside Page Illuminator, to choose the actual content (possibly the empty content) to

substitute for each illumination form (column 17, lines 40-45).

The content may be any type of displayable content, including text, hypermedia,

images, animations, audio, video, and the like (column 23, lines 38-40).

As to claim 8, Kramer teaches the claimed limitations:

"user profile generation and retrieval means for recording attribute data

associated with inputs made by individual users and using the attribute data to initialize

further sessions operated by the same users" as the consumer attributes may be

defined in a hierarchical model, with aggregated attributes having values derived from

lower level attributes (either themselves aggregated, or base level attributes). In this

way arbitrarily complex queries can be evaluated against the model to target very

specific consumers. The hierarchical model further allows recursive selection of

conditional content, with initial selection of content using higher levels of aggregated

attributes, and subsequent selection using a combination of lower levels of attributes on which the higher levels are based and consumer expression of interest in each level of selected content (column 3, lines 22-31).

As to claim 10, Kramer teaches the claimed limitations:

"the items selected for display are selected according to a process which uses the attribute data item scores to bias a probabilistic selection across the display items" as the consumer attributes are updated by the relevancy of individual transactions. Relative relevancy of transactions and the probabilities of transactions occurring or not occurring may also be used to update the attributes (column 3, lines 34-37).

As to claim 11, Kramer teaches the claimed limitations:

"each attribute data item has a score value which is altered as said browsing session continues according to user interaction with display items" as Illumination is the process of annotating or replacing sections of documents or other media with (possibly) related multimedia content. Typically the new content expands on the information in the original content and/or provides a more interesting presentation of the information (column 6, lines 22-26). The maintenance of the consumer profile is an on-going iterative process (column 11, lines 37-38).

Kramer does not explicitly teach the claimed limitation "each attribute data item has a score value which is altered as said browsing session continues".

Wang teaches at a time after the session is established, voice browse process, performed by voice browser server, requests information expected to be provided by a server on network. The initial request may correspond to a home page (page 6, paragraph 0054).

A search may seek entries in accordance with one or more target attribute values (page 13, paragraph 0119). Compute a score for each candidate and choose the PC node identifier having the lowest score (page 11, paragraph 0096).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Kramer, Wang and Adar before him/her, to modify Kramer browsing session continues in response to such user interaction because that would allow for frequent changes in the arrangement of content on web pages provided by the Internet as taught by Wang (abstract).

As to claim 12, Kramer teaches the claimed limitations:

"each display item is associated with a number of attribute data items, and where an aggregate score is created for that display item, using the score values of associated attribute data items" as the Illumination Sorter selects and sorts a set of illuminations by measuring each against the data sources, using the matching subsystem to compute a match score for each illumination. Illuminations whose match score is above a threshold associated with each illumination are selected; the selected illuminations are ordered by their match score to form the sorted illumination list (column 23, lines 15-22).

As to claim 13, Kramer teaches the claimed limitations:

"a method wherein each display item is associated with a number of attribute

data items, and where an aggregate score is created for that display item, using the

score values of associated attribute data items; and wherein one or more of the display

items may be selected using a probabilistic function, such that the aggregate score of

claim 10 determines the probability of its selection" as the merchant chooses to make

use of the hierarchical structure of the attribute vector to effect a hierarchical

discrimination of its content. The most relevant illumination will be displayed initially in

the illuminated document, with the selected ones of the remaining illumination

candidates available to the consumer via the content rotator, and ordered by their

relevancy (e.g. match scores) (column 32, lines 45-60).

The goal of creating the attribute vector is to allow illumination candidates to be

evaluated and ranked according to their relevance to the consumer. For example, if the

structured document is a credit card statement, the merchant identified in each

statement line may be responsible for transmitting a number of illuminations to be

applied only to its one line. Each content provider will generally have only a limited

display area in which to present the illuminations when the document is displayed on a

display device (column 21, lines 32-50). Each clement in the attribute vector 808

represents a consumer preference, interest, psychographic, demographic aspect, or

alternatively, the probability the consumer is interested in a specific topic, category, and

the like. These attributes are updated as a function of a measure of relevancy of a

transaction to each attribute (column 24, lines 41-46).

As to claim 14, Kramer teaches the claimed limitations:

"user-generated reward values in respect of selected display items are used to generate associated score values for the attribute data items associated with the display item, the score values being used to create an aggregate score for associated display items and hence bias the probabilistic selection process" as this abstraction process may be repeated as needed at further levels of abstraction, wherein one hierarchical vector is used as the base level vector for another hierarchical vector (column 22, lines 40-43). Each clement in the attribute vector represents a consumer preference, interest, psychographic, demographic aspect, or alternatively, the probability the consumer is interested in a specific topic, category, and the like. These attributes are updated as a function of a measure of relevancy of a transaction to each attribute (column 24, lines 41-46). The a priori probability values may be determined by statistical analysis of large amounts of blinded data, but are then used to refine specific consumer models (column 28, lines 53-55).

As to claim 15, Kramer teaches the claimed limitations:

"the attribute data items are associated with the display items using real-value weights which modify the generation of score values and the creation of an aggregate score" as the characteristic values for an object will be represented as a vector of real numbers where each value measures the degree to which the corresponding characteristic applies to the consumer or product (column 11, lines 1-4).

As to claims 18, 36 and 38, Kramer teaches the claimed limitations:

"reward values may accrue not only to attribute data items associated with a display item selected by the user, but also to attribute data items associated with display items which were available for selection in competition with the selected item either by being simultaneously present on the display means or by having been recently displayed" as the range of selectable content for a web page or other structured document is unlimited. This application can be used for example to implement a personalized web based magazine where articles are chosen and presented according to the viewer's interests and preferences. This application can also be used to allow very accurate targeting and personalization of advertisements and other kinds of commercial offers (column 9, lines 18-25).

As to claims 19, 37 and 39, although Kramer teaches the models can be used to order a number of pieces of conditional content with respect to how well they match the attributes of the consumer, and hence how well they may appeal to the consumer's interests, preferences, psychographics, or demographics. Display methods in an illumination process, which augments structured documents being electronically delivered to the consumer with the conditional content, allow for the consumer to view the most appropriate piece of content first, followed by the next most appropriate piece of content if the consumer so indicates, and so forth (column 2, line 56 to column 3, line 9). When the aggregated attributes from the attribute vector are involved, the

aggregated value is a weighted and normalized sum of a number of attribute values.

FIGS. 13a and 13b depicts tables showing conditional probability metadata (column 28,

lines 59-65; see also fig. 13A and 13B).

Kramer does not explicitly teach the claimed limitation "the reward accrued by

attribute data items due to association with non-selected display items is negative

where the selected display item reward is positive and positive where the selected

display item reward is negative".

Adar teaches relevance feedback allows the user to select whether the desired

documents are those similar to the selected context or dissimilar to the selected context.

A known example of positive relevance feedback is the More Like This option provided

by the Excite search engine (column 14, lines 18-36).

if the user selected positive relevance feedback (i.e., documents like these); the

closest context matches in the previously-keyword-matched public bookmark collection

are returned as the highest-ranking. If the user selected negative relevance feedback

(i.e., documents unlike these), the closest context matches in the collection are given

the lowest rankings. The recommendation list is then returned to the user for viewing

(column 15, lines 23-31). If positive relevance feedback (i.e., documents like these) has

been selected, the query is augmented by adding the additional context words as words

that should be found in the results; if negative feedback has been feedback has been

selected, the query is augmented by adding the additional context words as words that

should not be found in the results (e.g. non-selected) (column 15, lines 23-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made, having the teachings of Kramer, Wang and Adar before

him/her, to modify Kramer input positive and negative reward values because that

would to be able to incorporate community-based recommendations into a system that

is capable of retrieving previously unknown documents from the Internet as taught by

Adar (column 4, lines 10-15).

As to claim 21, Kramer teaches the claimed limitations:

"User profiles are generated using the attribute data associated with the

selections made by individual users" as the consumer profile is continually updated with

information extracted from electronically delivered structured documents and from

consumer behavior such as selection of content, and thus reflects an accurate and

current assessment of the consumer's interests, preferences, and demographics

(column 3, lines 10-14).

As to claim 22, Kramer teaches the claimed limitations:

"a further set of display items exists which is not selectable by the user for

amending the score values, the further display items being associated with attribute

data items drawn from a set wholly or partly overlapping with the set of attribute data

items associated with the interactive display items, the further display items being

selected, according to the associated attribute data items, for display on a separate

display means, or on a separate part of the display means used for interactive display

items" as the TIC client service evaluates the list of queries against the consumer model

in the client database to select the most relevant selection and requests the targeted

URL server to send the URL associated with the selection. The targeted URL server

also logs the selection with the accounting server for accounting and billing purposes

(column 19, lines 7-13).

Client service gives control back to browser which displays the page by resolving

the URLs placed by the client service. The content for these URLs are resolved from

illumination servers (column 19, lines 13-17). For given a illuminable element, factors

influencing the choice might include the appeal of the content based on one or several

active consumer models, frequency constraints or requirements for a given choice of

content, vendor preferences of TIC, the owner of the page, and the owner of a given

element (column 20, lines 44-49).

As to claim 23, Kramer teaches the claimed limitations:

"a user may initiate a further type of interaction, such as purchase or request for

further information, by selection of display items" as the use of policies further extends

the opportunities for controlled targeting of promotional information, since each section

of a structured document may have policies that differently influence the selection of

content alternatives relative to a consumer's profile (column 7, lines 40-44).

In this way arbitrarily complex queries can be evaluated against the model to

target very specific consumers. The hierarchical model further allows recursive selection

of conditional content, with initial selection of content using higher levels of aggregated

attributes, and subsequent selection using a combination of lower levels of attributes on

which the higher levels are based and consumer expression of interest in each level of

selected content (column 3, lines 25-32).

As to claim 25, Kramer teaches the claimed limitations:

"A computer program product directly loadable into the internal memory of a

computer, comprising software code portions for performing the steps of the method of

claim 9 when the product is run on a computer" as a local access device with local

memory, computing capability, persistent storage, a display, and a network connection

(column 5, lines 5-7).

As claims 30-32, Kramer teaches the claimed limitations:

"the display items are displayed, prior to receiving said user inputs, at random" as

with the explicit permission of randomly selected consumers, consumer profiles can be

fed back to the model in order to refine appeal profiles (column 11, lines 33-35).

Various presentation orders may be used to determine the sequence in which the

illuminations appear. In one embodiment, the content items are presented in random

order (column 31, lines 30-33).

As claims 42-44, Kramer teaches the claimed limitations:

"at least one of the attribute data items is associated with more than one of the

display items" as the merchant chooses to make use of the hierarchical structure of the

attribute vector to effect a hierarchical discrimination of its content. These illuminations

will be processed by the Illumination Sorter to determine which categories are most

relevant to the consumer. The most relevant illumination will be displayed initially in the

illuminated document (column 32, lines 45-60).

8.   Claims 16, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kramer et al. (US Patent No. 6,327,574 B1) as applied to claims 1, 9 and 26

above, and further in view of Wang et al. (US Patent Application No. 2002/0174147 A1),

Adar et al. (US Patent No. 6,493,702 B1) and Hals et al. (US Patent Application No.

2002/0078230 A1, hereinafter "Hals").

        As to claims 16, 40 and 41, although Kramer teaches the illumination contains a

relevancy vector, to indicate which elements of the target vector are important. If an

element of the relevancy vector is set to zero, the attribute represented by the element

is of no interest in the matching; if set to 1, it is completely of interest. A relevancy

vector value may vary between 0 and 1, indicating that the attribute is of any arbitrary

level of interest (column 24, lines 17-24).

        Kramer does not explicitly teach the claimed limitation "the changes to attribute

data item score values are so arranged that the sum of score values across all attribute

data items is zero".

        Hals teaches a positive total score of the values of the search terms entered by

the visitor implies that the visitor is looking for information about Walt Disney Cartoon

characters. A negative total score of the values of the search terms entered by the

visitor implies that the visitor is looking for information about visiting Walt Disney World

in Florida. A zero total score of the values of the search terms implies that the visitor

may be interested in both or neither of the foregoing (page 5, paragraph 0045).

Also, Adar teaches if the user selected positive relevance feedback, the closest

context matches in the previously –keyword -matched public bookmark collection are

returned as the highest-ranking. If the user selected negative relevance feedback (i.e.,

documents unlike these), the closest context matches in the collection are given the

lowest rankings. The recommendation list is then returned to the user for viewing

(column 15, lines 23-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made, having the teachings of Kramer, Wang, Adar and Hals

before him/her, to modify Kramer the sum of score values across all attribute data items

is zero because that would allow a Web site to dynamically determine a navigation path

to impose on a visitor to the Web site based on one or more search terms or keywords

supplied by the visitor as taught by Hals (page 1, paragraph 0009).

9.   Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kramer et al. (US Patent No. 6,327,574 B1) as applied to claims 1, 9 and 26 above, and

further in view of Wang et al. (US Patent Application No. 2002/0174147 A1), Adar et al.

(US Patent No. 6,493,702 B1) and Kim et al. (US Patent Application No. 2002/0065959

A1, hereinafter "Kim").

As to claim 33, although Kramer teaches an appeal function may be based on a generalized inner product of the consumer and appeal profile, e.g. a weighted sum of the results of multiplying each corresponding pair of characteristic values (column 11, lines 17-21). When the aggregated attributes from the attribute vector are involved, the aggregated value is a weighted and normalized sum of a number of attribute values (column 28, lines 61-63; see also figure 13 A and B).

Kramer does not explicitly teach the claimed limitation "the sum of all score values remains the same value even after the score values are amended in response to the user inputs".

Kim teaches the minimum unlikelihood score (Min) is updated with an optimal path value if the Min is greater than the optimal path value. Unlike the first reference information model, in tracking an optimal path in the state lattice of each of the other reference information models, which are also stored in the dictionary, when the minimum state probability computed for an arbitrary effective state is smaller than the Min, the probability computed using the effective state is used as the minimum state probability. If an optimal path value B obtained from the optimal path for the second reference information model is smaller than the minimum unlikelihood score, the initial unlikelihood score A is updated with the optimal path value B. Otherwise, the minimum unlikelihood score Min remains as the value A. This process is iterated for all the reference information modes which are stored in the dictionary, excluding the first reference information model (page 4, paragraph 0038-0039).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Kramer, Wang, Adar and Kim before him/her, to modify Kramer all score values remains the same value even after the score values are amended because that would finds an optimal path in a Hidden Markov Model state lattice using a minimum unlikelihood score and using the Viterbi algorithm, to recognize unknown information, so that unnecessary computations are avoided as taught by Kim (page 2, paragraph 0015).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Hwa whose telephone number is 571-270-1285. The examiner can normally be reached on 8:00 – 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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